UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,968	01/18/2006	Shigeo Yukawa	10873.1824USWO	5390

52835 7590 10/05/2009

HAMRE, SCHUMANN, MUELLER & LARSON, P.C.
P.O. BOX 2902
MINNEAPOLIS, MN 55402-0902

EXAMINER	
REDDY, SATHAVARAM I	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
10/05/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,968	YUKAWA ET AL.	
	Examiner	Art Unit	
	SATHAVARAM I. REDDY	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *15-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/17/2006, 8/18/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-14 in the reply filed on 7/1/2009 is acknowledged. The traversal is on the ground(s) that claim 15 requires the high-refractive glass beads be embedded in part of the binder layer where the print resin is not formed and that each of the groups requires a print resin layer made of a composition having a room temperature resin as a main component and that all the groups share the same special technical features. This is not found persuasive because Group 2 requires the high-refractive glass beads to be embedded in the binder layer where the print resin layer is formed, Groups 1, 3 and 4 do not. Group 3 requires a print layer having an affinity with a sublimable dye, Group 1 requires a print layer comprising a room temperature curing resin and Group 4 only requires a transfer paper. Group 4 requires a transfer paper, Group 1 does not.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 15-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected process and product inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/1/2009.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 6, 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236) in view of Ochi et al (US 5,812,316) and further in view of Araki et al (US 5,714,223).

Regarding claim 1, Faykish et al (US 5,866,236) discloses a retroreflective sheet for security comprising a binder layer (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46), high-refractive index glass beads (Fig. 1 #60 "glass microspheres"; col. 3, lines 39-46), a print resin layer (Fig. 1 #170 "pattern coated layer"; col. 5, lines 16-29), a focusing layer (Fig. 1 #120 "tie layer"; col. 4, lines 41-49), a metal layer (Fig. 1 #30 "reflective layer; col. 3, lines 6-30) and a pressure-sensitive adhesive layer (Fig. 1 #150 "adhesive"; col. 5, lines 1-29) where the print resin layer forms a mark (Fig. 1 #170 "pattern coated layer"; col. 5, lines 16-29), the high-refractive index glass beads are disposed in the binder layer (Fig. 1 #60 "glass microspheres"; col. 3, lines 39-46) and where the position for disposing the high-refractive index glass beads does not coincide with the surface layer side in the thickness direction of the retroreflective sheet (Fig. 1;

col. 3, lines 39-46; col. 5, lines 16-29). It can be seen in Fig. 1 that the high-refractive glass beads do not coincide with the print resin layer.

Faykish et al (US 5,866,236) does not appear to explicitly disclose a surface layer and the print resin layer made of a composition containing a room temperature curing resin as a main component.

However, Ochi et al (US 5,812,316) discloses a surface layer ("protective film"; col. 8, lines 24-35).

Araki et al (US 5,714,223) discloses the print resin layer made of a composition containing a room temperature curing resin as a main component ("print layer"; col. 11, lines 27-37).

Regarding claim 2, Faykish et al (US 5,866,236) discloses the binder layer made of a composition comprising a thermosetting resin (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46). The binder layer of Faykish et al (US 5,866,236) can be made of polyester which is considered a thermosetting resin.

Regarding claim 3, Faykish et al (US 5,866,236) discloses a self-destructive layer between a focusing layer and the metal layer (Fig. 1 #20 "structured layer"; col. 3, lines 6-30).

Regarding claim 4, Faykish et al (US 5,866,236) discloses the self-destructive layer made of a resin composition having low adhesion with the metal layer (Fig. 1 #20 "structured layer"; col. 3, lines 6-30). The resin composition having low adhesion with the metal layer is an acrylic material such as acrylate monomers.

Regarding claim 6, Faykish et al (US 5,866,236) discloses the self-destructive layer comprising a hologram of diffraction grating (Fig. 1 #20 "structured layer"; col. 3, lines 6-30).

The subjecting of a fragile film or supporting film to regular or irregular treatment is a process limitation in a product claim.

"Even though the product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966) Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and

the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Regarding claim 7, Faykish et al (US 5,866,236) discloses the binder layer made of polyester (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46).

Faykish et al (US 5,866,236) does not appear to explicitly disclose a surface layer made of polyester.

However, Ochi et al (US 5,812,316) discloses a surface layer made of polyester ("protective film"; col. 8, lines 24-35).

Both the surface layer of Ochi et al (US 5,812,316) and the binder layer of Faykish et al (US 5,866,236) are made of polyester.

Regarding claim 14, Faykish et al (US 5,866,236) discloses a retroreflective sheet for security comprising a binder layer (Fig. 1 #70 "spacing resin"; col. 3, lines 39-46), high-refractive index glass beads (Fig. 1 #60 "glass microspheres"; col. 3, lines 39-46), a print resin layer (Fig. 1 #170 "pattern coated layer"; col. 5, lines 16-29), a focusing layer (Fig. 1 #120 "tie layer"; col. 4, lines 41-49) and a metal layer (Fig. 1 #30 "reflective layer; col. 3, lines 6-30) where the print resin layer forms a mark (Fig. 1 #170 "pattern coated layer"; col. 5, lines 16-29), the high-refractive index glass beads are disposed in

the binder layer (Fig. 1 #60 "glass microspheres"; col. 3, lines 39-46) and where the position for disposing the high-refractive index glass beads does not coincide with the surface layer side in the thickness direction of the retroreflective sheet (Fig. 1; col. 3, lines 39-46; col. 5, lines 16-29). It can be seen in Fig. 1 that the high-refractive glass beads do not coincide with the print resin layer.

Faykish et al (US 5,866,236) does not appear to explicitly disclose a surface layer and the print resin layer made of a composition containing a room temperature curing resin as a main component.

However, Ochi et al (US 5,812,316) discloses a surface layer ("protective film"; col. 8, lines 24-35).

Araki et al (US 5,714,223) discloses the print resin layer made of a composition containing a room temperature curing resin as a main component ("print layer"; col. 11, lines 27-37).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236) and Ochi et al (US 5,812,316) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236) to include the surface layer of Ochi et al (US 5,812,316) in that having the surface layer provides high mechanical strength (col. 8, lines 36-38).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236) and Araki et al (US 5,714,223) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236) to include the print resin layer composition of Araki et al (US 5,714,223) in that having the required print resin composition provides improved adhesion of the print resin layer (col. 11, lines 27-37).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) in view of Rivera et al (US 2005/0179253).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) are relied upon as described above.

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose a self-destructive layer disposed on the

pressure-sensitive adhesive layer and in between a pressure-sensitive adhesive layer and a metal layer.

However, Rivera et al (US 2005/0179253) discloses a self-destructive layer disposed on the pressure-sensitive adhesive layer and in between a pressure-sensitive adhesive layer and a metal layer (paragraph [0028]).

The metal layer is discussed by Faykish et al (US 5,866,236) and the self-destructive layer disposed on the pressure-sensitive adhesive layer can be disposed on the metal layer thus having a self-destructive layer in between a metal layer and pressure-sensitive adhesive layer.

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) and Rivera et al (US 2005/0179253) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) and Rivera et al (US 2005/0179253) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) to include the self-destructive layer between a pressure-sensitive adhesive and metal layer of Rivera et al (US 2005/0179253) in that

having a self-destructive layer in between a pressure-sensitive adhesive layer provides security for product authentication (paragraph [0005], lines 1-5).

6. Claims 8, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) in view of Pearce et al (US 5,342,821).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) are relied upon as described above.

Regarding claim 8, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose a surface resin layer, an image formation resin layer and a dye migration preventive resin layer in order.

However, Pearce et al (US 5,342,821) discloses a surface resin layer ("support"; col. 5, lines 34-39), an image formation resin layer ("dye image-receiving layer"; col. 5, lines 57-68) and a dye migration preventive resin layer ("dye-migration barrier layer"; col. 8, lines 13-18) in order.

The surface resin layer having a weak affinity with the sublimable dye and allowing the sublimable dye to penetrate, the image formation resin layer having an

affinity with the sublimable dye and a dye migration preventive layer preventing migration of the sublimable dye are intended use limitations.

The limitation(s) "the surface resin layer having a weak affinity with the sublimable dye and allowing the sublimable dye to penetrate, the image formation resin layer having an affinity with the sublimable dye and a dye migration preventive layer preventing migration of the sublimable dye" is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned. Note that "in apparatus, article, and composition claims, intended use must result in a ***structural difference*** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. ***If the prior art structure is capable of performing the intended use, then it meets the claim***. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art." [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02.

Regarding claim 9, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose the dye migration preventive layer being a resin layer containing a vinyl resin.

However, Pearce et al (US 5,342,821) discloses the dye migration preventive layer being a resin layer containing a vinyl resin ("dye-migration barrier layer"; col. 7, lines 10-22; col. 8, lines 13-18).

In regard to the glass transition temperature of 70 C and a SP value of 9.0 or more, it is given that Pearce et al (US 5,342,821) disclosing the dye migration preventive layer being a resin layer containing a vinyl resin as a main component to inherently have the glass transition temperature of 70 ºC and a SP value of 9.0 or more.

Regarding claim 13, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose the image formation resin layer being a resin layer and containing a low-molecular weight compound with a molecular weight of 1300 or less in an amount of 0% to 20% inclusive.

However, Pearce et al (US 5,342,821) discloses the image formation resin layer being a resin layer and containing a low-molecular weight compound with a molecular weight of 1300 or less in an amount of 0% (col. 5, lines 34-39; col. 5, lines 57-68).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) to include the surface resin layer, image formation resin layer and dye migration preventive layer of Pearce et al (US 5,342,821) in that having a surface resin layer, image formation resin layer and dye migration preventive layer prevents smearing of a dye (col. 1, lines 6-13).

7. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) in view of Bourdelais et al (US 6,261,994).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) are relied upon as described above.

Regarding claim 10, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) do not appear to explicitly disclose a dye migration preventive layer having a thickness of 1 μm to 100 μm.

However, Bourdelais et al (US 6,261,994) discloses a dye migration preventive layer having a thickness of 0.20 µm to 1.5 µm (col. 6, lines 57-59; col. 6, line 65-col. 1, line 7).

Bourdelais et al (US 6,261,994) and the claims differ in that film thickness of the dye migration preventive resin layer does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Bourdelais et al (US 6,261,994) overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claim 11, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) do not appear to explicitly disclose the dye migration preventive layer being a biaxially stretched film.

However, Bourdelais et al (US 6,261,994) discloses the dye migration preventive layer being a biaxially stretched film (col. 4, lines 38-43).

In regard to the stretching of 10% or more in a winding direction and in a width direction, it is given that Bourdelais et al (US 6,261,994) disclosing a biaxially stretched film which is a film that is stretched in winding and width directions to inherently be stretched 10% or more in a winding direction and in a width direction.

Regarding claim 12, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) do not appear to explicitly disclose the dye migration preventive layer being a biaxially stretched film.

However, Bourdelais et al (US 6,261,994) discloses the dye migration preventive layer being a biaxially stretched film (col. 4, lines 38-43).

In regard to the shrinkage ratio in a winding direction being 1% or less after being heated for 150 ºC or more, it is given that Bourdelais et al (US 6,261,994) disclosing a biaxially stretched film which is a film that is stretched in winding and width directions to

inherently have a shrinkage ratio in a winding direction being 1% or less after being heated for 150 ºC or more.

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) and Bourdelais et al (US 6,261,994) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223), Pearce et al (US 5,342,821) and Bourdelais et al (US 6,261,994) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Pearce et al (US 5,342,821) to include the biaxially stretched film of Bourdelais et al (US 6,261,994) in that having a dye migration preventive resin layer provides optimum reflective properties (col. 4, lines 13-15).

8. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) in view of Yukawa et al (US 2005/0148469).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) are relied upon as described above.

Regarding claim 8, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose a surface resin layer, an image formation resin layer and a dye migration preventive resin layer in order.

However, Yukawa et al (US 2005/0148469) discloses a surface resin layer, an image formation resin layer and a dye migration preventive resin layer in order (paragraphs [0019], [0020] and [0133]).

The surface resin layer having a weak affinity with the sublimable dye and allowing the sublimable dye to penetrate, the image formation resin layer having an affinity with the sublimable dye and a dye migration preventive layer preventing migration of the sublimable dye are intended use limitations.

Regarding claim 9, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose the dye migration preventive layer being a resin layer containing a vinyl resin with a glass transition temperature of 70 °C or more and a SP value of 9.0 or more as a main component.

However, Yukawa et al (US 2005/0148469) discloses the dye migration preventive resin layer being a resin layer containing a vinyl resin with a glass transition

temperature of 70 °C or more and a SP value of 9.0 or more as a main component (paragraph [0022]).

Regarding claim 10, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose the film thickness of the dye migration preventive resin layer being 1 μm to 100 μm.

However, Yukawa et al (US 2005/0148469) discloses the film thickness of the dye migration preventive resin layer being 1 μm to 100 μm (paragraph [0139]).

Regarding claim 11, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose the dye migration preventive resin layer being a biaxially stretched film that is stretched by 10% or more in a winding direction and in a width direction.

However, Yukawa et al (US 2005/0148469) discloses the dye migration preventive resin layer being a biaxially stretched film that is stretched by 10% or more in a winding direction and in a width direction (paragraph [0023]).

Regarding claim 12, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose a shrinkage ratio of the

biaxially stretched film in the winding direction of the film after being heated at 150 ºC for 30 minutes is 1.0% or less.

However, Yukawa et al (US 2005/0148469) discloses a shrinkage ratio of the biaxially stretched film in the winding direction of the film after being heated at 150 ºC for 30 minutes is 1.0% or less (paragraph [0023]).

Regarding claim 13, Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) do not appear to explicitly disclose the image formation resin layer being a resin layer containing a low-molecular-weight compound with a molecular weight of 1300 or less in an amount of 0% to 20% inclusive.

However, Yukawa et al (US 2005/0148469) discloses the image formation resin layer being a resin layer containing a low-molecular-weight compound with a molecular weight of 1300 or less in an amount of 0% to 20% inclusive (paragraph [0026]).

Faykish et al (US 5,866,236), Ochi et al (US 5,812,316), Araki et al (US 5,714,223) and Yukawa et al (US 2005/0148469) are analogous art because they are from the same field of retroreflective sheets.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316),

Araki et al (US 5,714,223) and Yukawa et al (US 2005/0148469) before him or her, to modify the retroreflective sheet of Faykish et al (US 5,866,236), Ochi et al (US 5,812,316) and Araki et al (US 5,714,223) to include the surface resin layer, image formation resin layer and dye migration preventive resin layer of Yukawa et al (US 2005/0148469) in that having a surface resin layer, image formation resin layer and dye migration preventive resin layer prevents the migration of a sublimable dye and provides sharpness and color density to the image (paragraphs [0004] and [0005]).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bailey et al (US 4,663,213), Tolliver et al (US 5,069,964), Furukawa et al (US 2002/0149658) and Hannington (US 7,504,147) are pertinent in that they refer to retroreflective sheets.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SATHAVARAM I. REDDY whose telephone number is (571) 270-7061. The examiner can normally be reached on 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on (571) 272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/
Supervisory Patent Examiner, Art Unit 1794

SATHAVARAM I REDDY
Examiner
Art Unit 1794